

In the Claims

We claim:

1. A DHCP efflux protein, which is specific for 4,5-dihydroxy-2-cyclopenten-1-one (DHCP).

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2. The protein of Claim 1, which is a transmembrane protein that forms a cytoplasmic channel specific for efflux transport of DHCP.

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3. The protein of Claim 1, which confers resistance to DHCP.

4. The protein of Claim 1, which protein is from *E. coli*.

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5. The protein of Claim 1, which protein does not confer cross-resistance to any of the following antibiotics: chloramphenicol, spectinomycin and tetracycline.

6. The protein of Claim 1, which protein possesses 13 predicted transmembrane-spanning α -helices.

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7. A gene encoding *dep*, the DHCP efflux protein.

8. The *dep* gene of Claim 7, wherein the *dep* gene is from *E. coli*.

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9. The gene of Claim 7, wherein said gene confers resistance to DHCP or a functionally equivalent compound when present in multiple copies in a bacterial cell.

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10. A plasmid comprising the *dep* gene, which plasmid confers expression of multiple copies of the *dep* gene in bacteria cells that have been transformed with said plasmid.

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5a 11. The plasmid of Claim 10, which plasmid confers resistance to DHCP and does not confer cross-resistance to any of the following antibiotics: chloramphenicol, spectinomycin and tetracycline.

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12. Bacteria cells containing multiple copies of the plasmid of Claim 10.

10 13. The bacteria cells of Claim 12, which bacteria cells are resistant to DHCP.

a 14. A method which uses the gene of Claim 7 to identify a compound which inhibits efflux activity responsible for resistance to DHCP or a functionally equivalent compound.

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